**Figure 1**

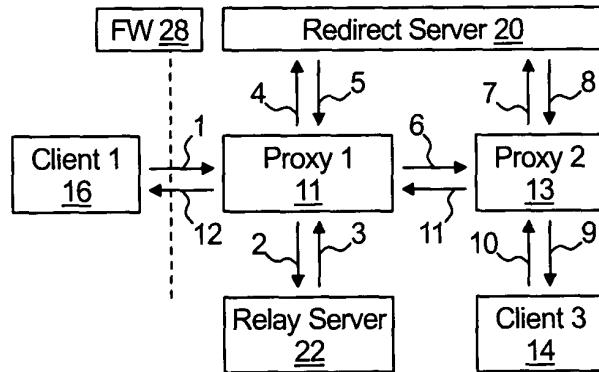


Figure 2a

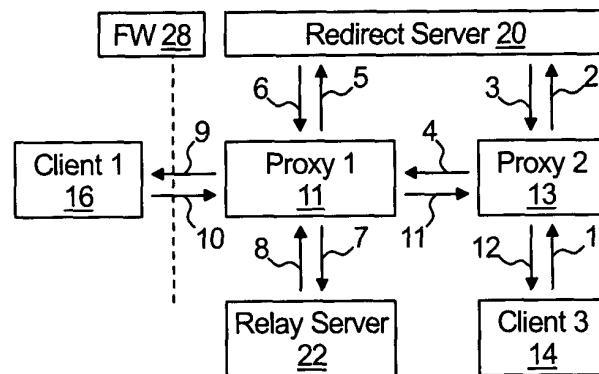


Figure 2b

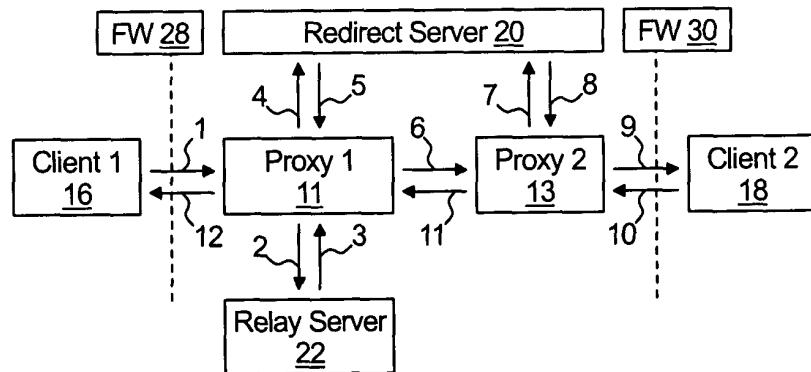


Figure 2c

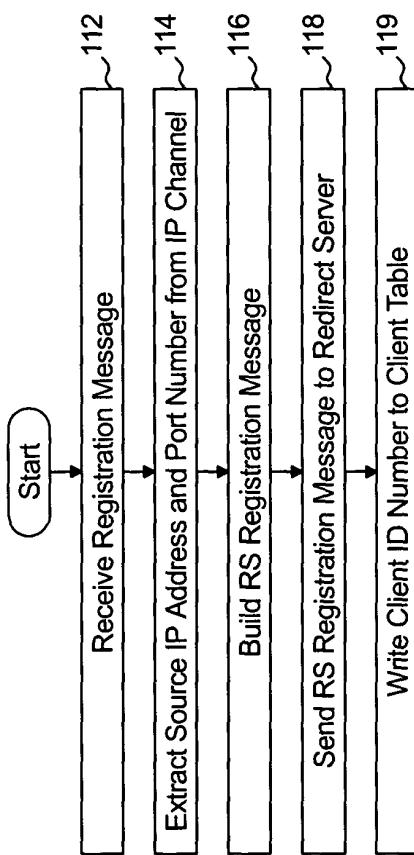


Figure 3a

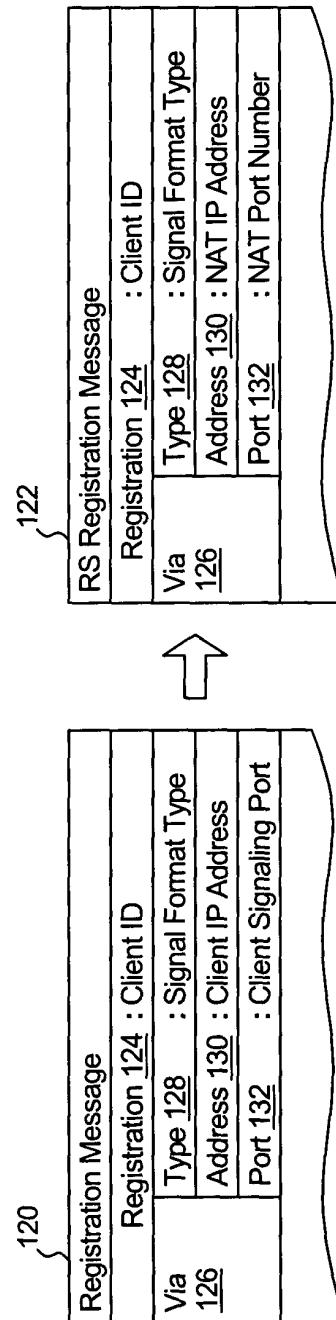


Figure 3b

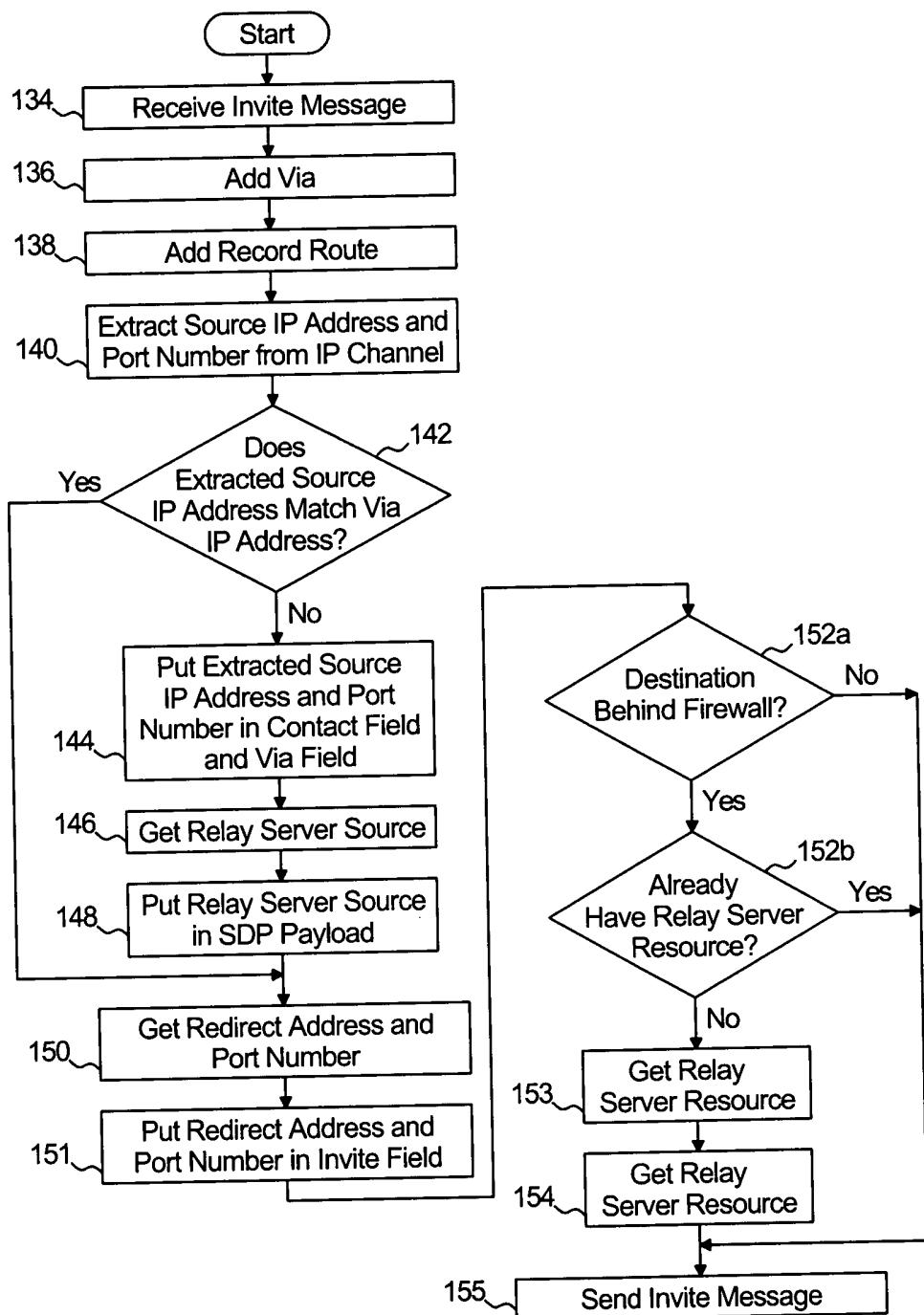


Figure 4a

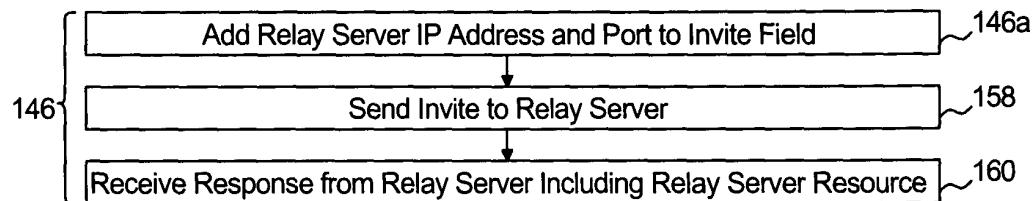


Figure 4b

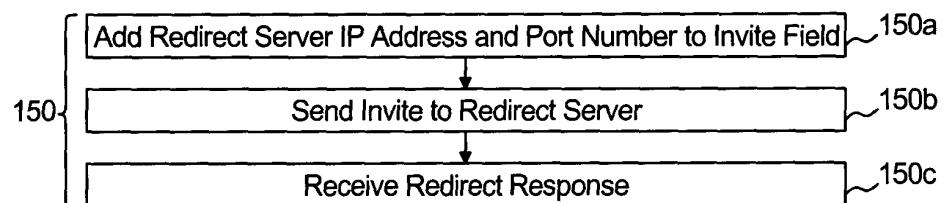


Figure 4c

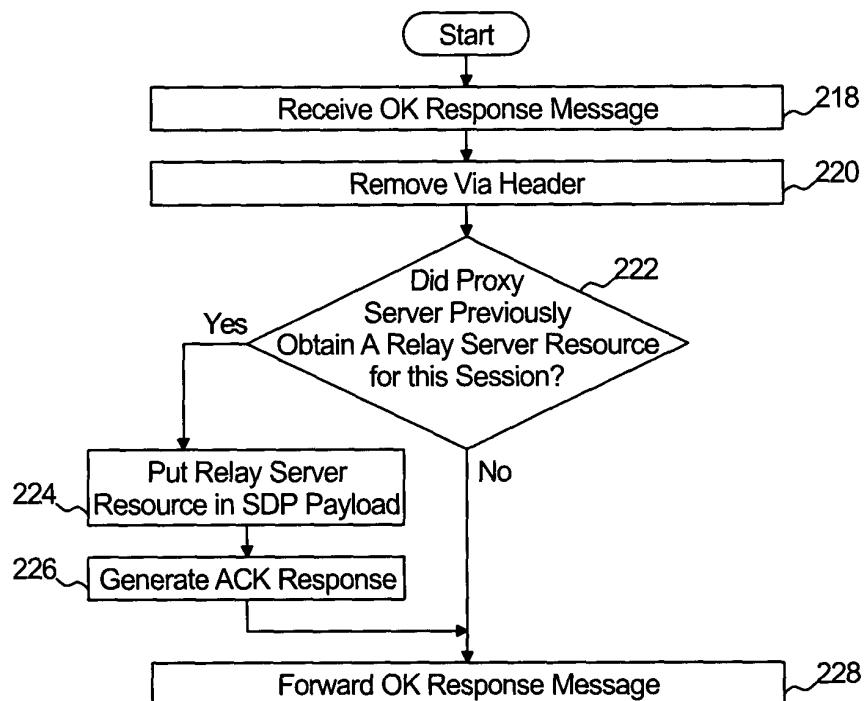


Figure 4d

<u>Session Invite 156</u>	
<u>Session ID 158</u> : Unique Session ID Number	
<u>Invite 160</u>	<u>ID 162</u> : Callee ID <u>Address 164</u> : Proxy 1 IP Address <u>Port 166</u> : Proxy 1 Signaling Port
<u>Via 168</u>	<u>Type 170</u> : Signal Format Type <u>Address 172</u> : Client IP Address <u>Port 174</u> : Client Signaling Port
<u>Contact 176</u>	<u>Type 178</u> : Client ID <u>Address 180</u> : Client IP Address <u>Port 182</u> : Client Signaling Port
Other SIP Fields	
<u>SDP Payload 184</u>	<u>Client IP Address 186</u> <u>Client Audio Port 188</u> <u>Client Video Port 190</u>

Figure 5a

<u>Forwarding Invite Message 192</u>	
<u>Session ID 158</u> : Unique Session ID Number	
<u>Invite 160</u>	<u>ID 162</u> : Callee ID <u>Address 164</u> : Redirect Address <u>Port 166</u> : Redirect Port
<u>Via 168a</u>	<u>Type 170</u> : Signal Format Type <u>Address 172</u> : Proxy 1 IP Address <u>Port 174</u> : Proxy 1 Signaling Port
<u>Via 168</u>	<u>Type 170</u> : Signal Format Type <u>Address 172</u> : Extracted IP Address <u>Port 174</u> : Extracted Port
<u>Contact 176</u>	<u>ID 178</u> : Client ID <u>Address 180</u> : Extracted IP Address <u>Port 182</u> : Extracted Port
<u>Record Route 177</u> : Proxy Information	
Other SIP Fields	
<u>SDP Payload 184</u>	<u>Relay Server IP Address 208</u> <u>Relay Server Audio Port 209</u> <u>Relay Server Video Port 210</u>

Figure 5b

Second Forwarding Invite Message 194	
Session ID <u>158</u> : Unique Session ID Number	
Invite <u>160</u>	ID <u>162</u> : Callee ID
	Address <u>164</u> : Callee IP Address
	Port <u>166</u> : Callee Signaling Port
Via <u>168b</u>	Type <u>170</u> : Signal Format Type
	Address <u>172</u> : Proxy 2 IP Address
	Port <u>174</u> : Proxy 2 Signaling Port
Via <u>168a</u>	Type <u>170</u> : Signal Format Type
	Address <u>172</u> : Proxy 1 IP Address
	Port <u>174</u> : Proxy 1 Signaling Port
Via <u>168</u>	Type <u>170</u> : Signal Format Type
	Address <u>172</u> : Extracted IP Address
	Port <u>174</u> : Extracted Port
Contact <u>176</u>	ID <u>178</u> : Client ID
	Address <u>180</u> : Extracted IP Address
	Port <u>182</u> : Extracted Port
Record Route <u>177</u> : Proxy Information	
Other SIP Fields	
SDP Payload <u>184</u>	Relay Server IP Address <u>208</u>
	Relay Server Audio Port <u>209</u>
	Relay Server Video Port <u>210</u>

Figure 5c

Session Invite <u>236</u>		Forwarding Invite Message <u>246</u>	
Session ID <u>158</u> : Unique Session ID Number		Session ID <u>158</u> : Unique Session ID Number	
Invite <u>160</u>	ID <u>162</u> : Client 1 ID Address <u>164</u> : Proxy 2 IP Address Port <u>166</u> : Proxy 2 Signaling Port	Invite <u>160</u>	ID <u>162</u> : Client 1 ID Address <u>164</u> : Redirect Address (Proxy 1) Port <u>166</u> : Redirect Port (Proxy 1)
Via <u>168</u>	Type <u>170</u> : Signal Format Type Address <u>172</u> : Client 3 IP Address Port <u>174</u> : Client 3 Signaling Port	Via <u>168a</u>	Type <u>170</u> : Signal Format Type Address <u>172</u> : Proxy 2 IP Address Port <u>174</u> : Proxy 2 Signaling Port
Contact <u>176</u>	Type <u>178</u> : Client 3 ID Address <u>180</u> : Client 3 IP Address Port <u>182</u> : Client 3 Signaling Port	Via <u>168</u>	Type <u>170</u> : Signal Format Type Address <u>172</u> : Client 3 IP Address Port <u>174</u> : Client 3 Port
Other SIP Fields		Contact <u>176</u>	ID <u>178</u> : Client ID Address <u>180</u> : Client 3 IP Address Port <u>182</u> : Client 3 Port
SDP Payload <u>184</u>	Client 3 IP Address <u>238</u> Client 3 Audio Port <u>240</u> Client 3 Video Port <u>242</u>	Record Route <u>177</u> : Proxy Information Other SIP Fields	
		SDP Payload <u>184</u>	Client 3 IP Address <u>238</u> Client 3 Audio Port <u>240</u> Client 3 Video Port <u>242</u>

Session Invite <u>236</u>	
Session ID <u>158</u> : Unique Session ID Number	
Invite <u>160</u>	ID <u>162</u> : Client 1 ID Address <u>164</u> : Proxy 2 IP Address Port <u>166</u> : Proxy 2 Signaling Port
Via <u>168</u>	Type <u>170</u> : Signal Format Type Address <u>172</u> : Client 3 IP Address Port <u>174</u> : Client 3 Signaling Port
Contact <u>176</u>	Type <u>178</u> : Client 3 ID Address <u>180</u> : Client 3 IP Address Port <u>182</u> : Client 3 Signaling Port
Other SIP Fields	
SDP Payload <u>184</u>	Client 3 IP Address <u>238</u> Client 3 Audio Port <u>240</u> Client 3 Video Port <u>242</u>

Figure 5d

Figure 5e

Second Forwarding Invite Message <u>248</u>	
Session ID <u>158</u> : Unique Session ID Number	
<u>Invite</u> <u>160</u>	ID <u>162</u> : Client 1 ID
	Address <u>164</u> : Redirect Address (NAT 1)
	Port <u>166</u> : Redirect Port (NAT 1)
<u>Via</u> <u>168b</u>	Type <u>170</u> : Signal Format Type
	Address <u>172</u> : Proxy 1 IP Address
	Port <u>174</u> : Proxy 1 Signaling Port
<u>Via</u> <u>168a</u>	Type <u>170</u> : Signal Format Type
	Address <u>172</u> : Proxy 2 IP Address
	Port <u>174</u> : Proxy 2 Signaling Port
<u>Via</u> <u>168</u>	Type <u>170</u> : Signal Format Type
	Address <u>172</u> : Client 3 IP Address
	Port <u>174</u> : Client 3 Port
<u>Contact</u> <u>176</u>	ID <u>178</u> : Client ID
	Address <u>180</u> : Client 3 IP Address
	Port <u>182</u> : Client 3 Port
Record Route <u>177</u> : Proxy Information	
Other SIP Fields	
<u>SDP</u> <u>Payload</u> <u>184</u>	Relay Server IP Address <u>208</u>
	Relay Server Audio Port <u>209</u>
	Relay Server Video Port <u>210</u>

Figure 5f

Second Forwarding Invite Message <u>254</u>	
Session ID <u>158</u> : Unique Session ID Number	
Invite <u>160</u>	ID <u>162</u> : Client 1 ID
	Address <u>164</u> : Redirect Address (NAT 2)
	Port <u>166</u> : Redirect Port (NAT 2)
Via <u>168b</u>	Type <u>170</u> : Signal Format Type
	Address <u>172</u> : Proxy 2 IP Address
	Port <u>174</u> : Proxy 2 Signaling Port
Via <u>168a</u>	Type <u>170</u> : Signal Format Type
	Address <u>172</u> : Proxy 1 IP Address
	Port <u>174</u> : Proxy 1 Signaling Port
Via <u>168</u>	Type <u>170</u> : Signal Format Type
	Address <u>172</u> : Client 3 IP Address
	Port <u>174</u> : Client 3 Port
Contact <u>176</u>	ID <u>178</u> : Client ID
	Address <u>180</u> : Client 3 IP Address
	Port <u>182</u> : Client 3 Port
Record Route <u>177</u> : Proxy Information	
Other SIP Fields	
SDP Payload <u>184</u>	Relay Server IP Address <u>208</u>
	Relay Server Audio Port <u>209</u>
	Relay Server Video Port <u>210</u>

Figure 5g

OK Response <u>230</u>	
Session ID <u>158</u> : Unique Session ID Number	
Via <u>168b</u>	Type <u>170</u> : Signal Format Type
	Address <u>172</u> : Proxy 2 IP Address
	Port <u>174</u> : Proxy 2 Signaling Port
Via <u>168a</u>	Type <u>170</u> : Signal Format Type
	Address <u>172</u> : Proxy 1 IP Address
	Port <u>174</u> : Proxy 1 Signaling Port
Via <u>168</u>	Type <u>170</u> : Signal Format Type
	Address <u>172</u> : Extracted IP Address
	Port <u>174</u> : Extracted Port
Record Route <u>177</u> : Proxy Information	
Other SIP Fields	
SDP Payload <u>184</u>	Client IP Address <u>186</u>
	Client Audio Port <u>188</u>
	Client Video Port <u>190</u>

Figure 6a

OK Response <u>230</u>	
Session ID <u>158</u> : Unique Session ID Number	
Via <u>168a</u>	Type <u>170</u> : Signal Format Type
	Address <u>172</u> : Proxy 1 IP Address
	Port <u>174</u> : Proxy 1 Signaling Port
Via <u>168</u>	Type <u>170</u> : Signal Format Type
	Address <u>172</u> : Extracted IP Address
	Port <u>174</u> : Extracted Port
Record Route <u>177</u> : Proxy Information	
Other SIP Fields	
SDP Payload <u>184</u>	Client IP Address <u>186</u>
	Client Audio Port <u>188</u>
	Client Video Port <u>190</u>

Figure 6b

OK Response <u>230</u>	
Session ID <u>158</u> : Unique Session ID Number	
Via <u>168</u>	Type <u>170</u> : Signal Format Type
	Address <u>172</u> : Extracted IP Address
	Port <u>174</u> : Extracted Port
Record Route <u>177</u> : Proxy Information	
Other SIP Fields	
SDP Payload <u>184</u>	Relay Server IP Address <u>208</u>
	Relay Server Audio Port <u>209</u>
	Relay Server Video Port <u>210</u>

Figure 6c

<u>Forwarding OK Response 252</u>	
<u>Session ID 158</u>	: Unique Session ID Number
<u>Via 168b</u>	Type <u>170</u> : Signal Format Type
	Address <u>172</u> : Proxy 1 IP Address
	Port <u>174</u> : Proxy 1 Signaling Port
<u>Via 168a</u>	Type <u>170</u> : Signal Format Type
	Address <u>172</u> : Proxy 2 IP Address
	Port <u>174</u> : Proxy 2 Signaling Port
<u>Via 168</u>	Type <u>170</u> : Signal Format Type
	Address <u>172</u> : Client 3 IP Address
	Port <u>174</u> : Client 3 Port
	Record Route <u>177</u> : Proxy Information
	Other SIP Fields
<u>SDP Payload 184</u>	Relay Server IP Address <u>208</u>
	Relay Server Audio Port <u>209</u>
	Relay Server Video Port <u>210</u>

Figure 6e

<u>OK Response 250</u>	
	<u>Session ID 158</u> : Unique Session ID Number
<u>Via 168b</u>	Type <u>170</u> : Signal Format Type
	Address <u>172</u> : Proxy 1 IP Address
	Port <u>174</u> : Proxy 1 Signaling Port
<u>Via 168a</u>	Type <u>170</u> : Signal Format Type
	Address <u>172</u> : Proxy 2 IP Address
	Port <u>174</u> : Proxy 2 Signaling Port
<u>Via 168</u>	Type <u>170</u> : Signal Format Type
	Address <u>172</u> : Client 3 IP Address
	Port <u>174</u> : Client 3 Port
	Record Route <u>177</u> : Proxy Information
	Other SIP Fields
<u>SDP Payload 184</u>	Relay Server IP Address <u>208</u>
	Relay Server Audio Port <u>209</u>
	Relay Server Video Port <u>210</u>

Figure 6d

OK Response <u>256</u>	
Session ID <u>158</u> : Unique Session ID Number	
Via <u>168b</u>	Type <u>170</u> : Signal Format Type
	Address <u>172</u> : Proxy 2 IP Address
	Port <u>174</u> : Proxy 2 Signaling Port
Via <u>168a</u>	Type <u>170</u> : Signal Format Type
	Address <u>172</u> : Proxy 1 IP Address
	Port <u>174</u> : Proxy 1 Signaling Port
Via <u>168</u>	Type <u>170</u> : Signal Format Type
	Address <u>172</u> : Extracted IP Address
	Port <u>174</u> : Extracted Signaling Port
Record Route <u>177</u> : Proxy Information	
Other SIP Fields	
SDP Payload <u>184</u>	Client IP Address <u>186</u>
	Client Audio Port <u>188</u>
	Client Video Port <u>190</u>

Figure 6f

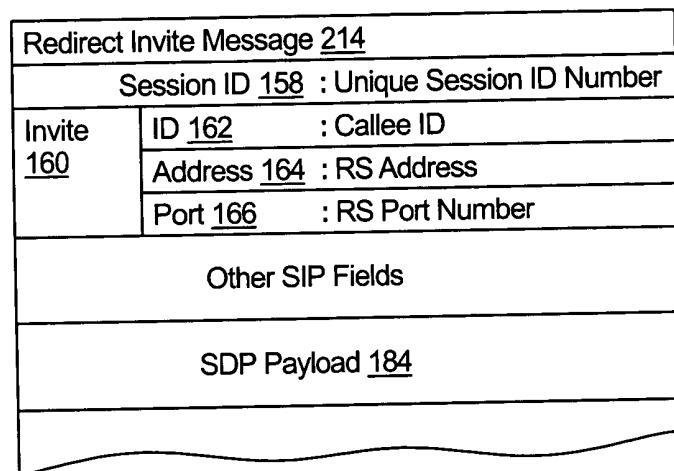


Figure 7a

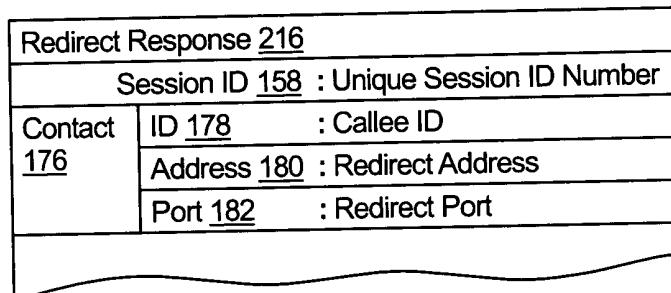


Figure 7b

Relay Server Invite <u>202</u>	
Session ID <u>158</u> : Unique Session ID Number	
Invite <u>160</u>	ID <u>162</u> : Callee ID
	Address <u>164</u> : RS IP Address
	Port <u>166</u> : RS Signaling Port
Via <u>168</u>	Type <u>170</u> : Signal Format Type
	Address <u>172</u> : Proxy 1 IP Address
	Port <u>174</u> : Proxy 1 Signaling Port
Record Route <u>177</u> : Proxy Information	
Other SIP Fields	
SDP Payload <u>184</u>	

Figure 8a

Relay Server Response <u>204</u>	
Session ID <u>158</u> : Unique Session ID Number	
Other SIP Fields	
SDP Payload <u>184</u>	Relay Server IP Address <u>208</u>
	Relay Server Audio Port <u>209</u>
	Relay Server Video Port <u>210</u>

Figure 8b

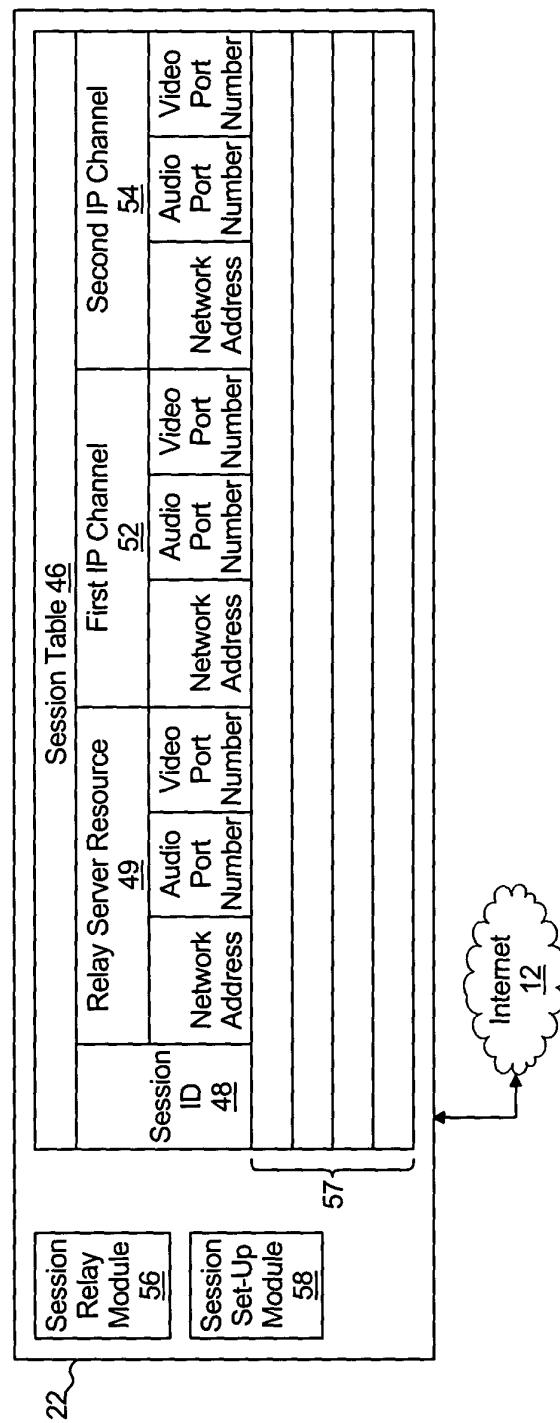


Figure 9

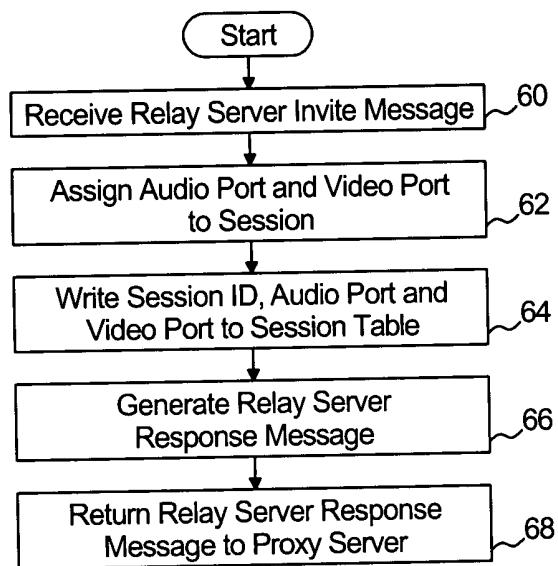


Figure 10

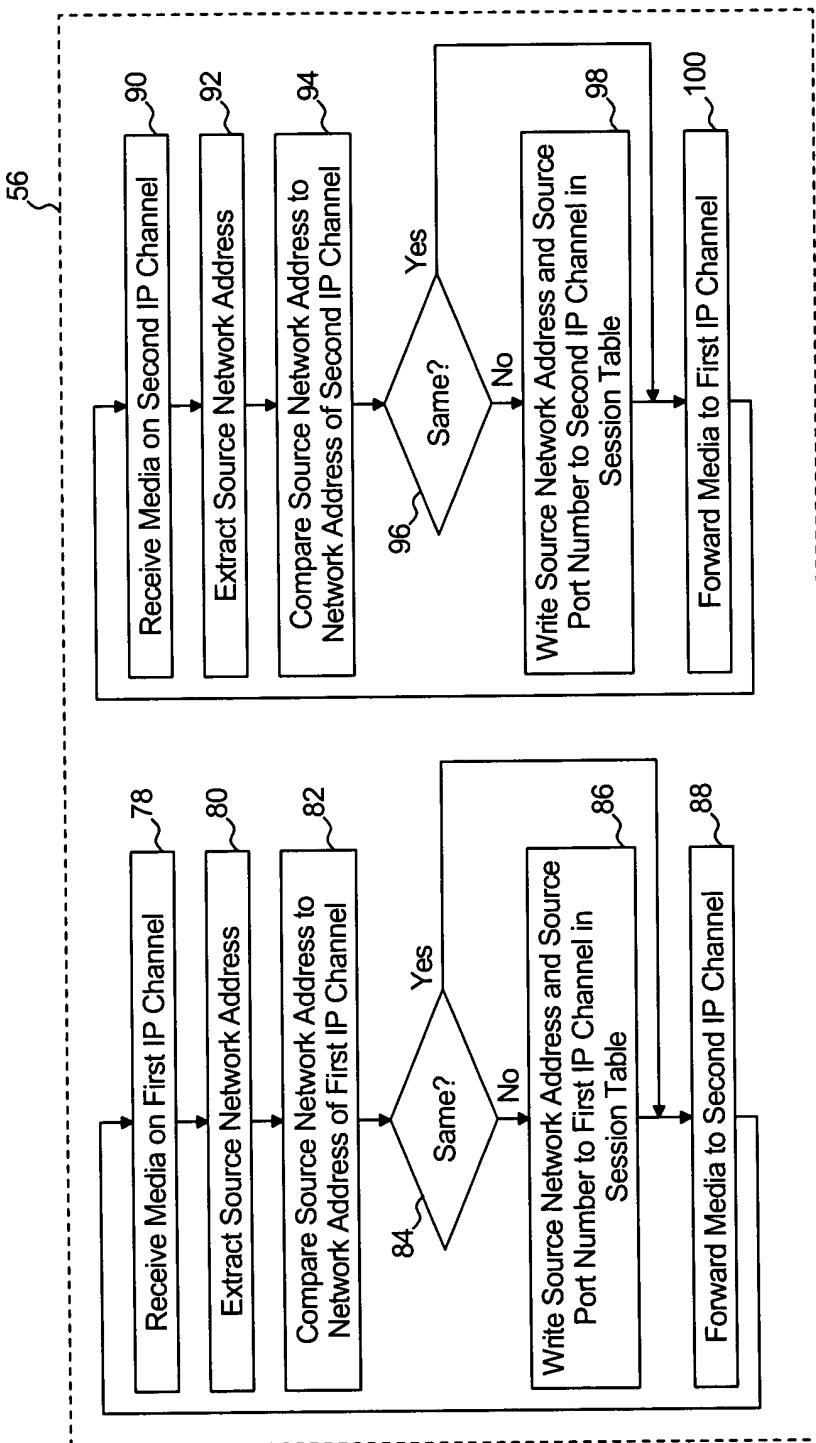


Figure 11